YORK College | CUNY

3rd Northeastern RUME Conference

A regional, one-day conference on research in undergraduate mathematics education

Keynote

Claire Wladis (BMCC / CUNY)

Symbolic structure sense: A "big idea" connecting arithmetic, algebra, calculus, and other mathematical domains

There is no registration fee!

This talk will focus on describing a new theoretical model of students' symbolic structure sense, which we define roughly as the extent to which students are (1) able to correctly interpret the existing syntactical structure of mathematical objects (e.g. expressions, equations), and (2) use this structure, along with substitution and given mathematical properties, to generate equivalent objects. This model grew initially out of research on the thinking of developmental algebra students, but has since emerged as a more general model that attempts to engage with how students think about (and use) many different types of formal written mathematical symbolism in various domains, including arithmetic, calculus, and beyond. We see this model as representing a potential "big idea" that could be used to link instruction across grades and domains, and shed light on many common student errors that have been well documented over the years in the research literature.

We will first describe some of the influences and contexts that have contributed to the creation of this model. Then we will outline the features of the model and present some examples from various mathematical domains to (1) illustrate the need for a model of student thinking around symbolic structure sense (how such a model might help us analyze student thinking), and (2) present some open questions about how such a model might be used in the future to generate alternate approaches to curriculum, instruction, or assessment.

Saturday October 5, 2019. 5:00pm–6:00pm
Academic Core Building (Room 1M07), York College / CUNY
For information about the conference, visit pcrg.gse.rutgers.edu